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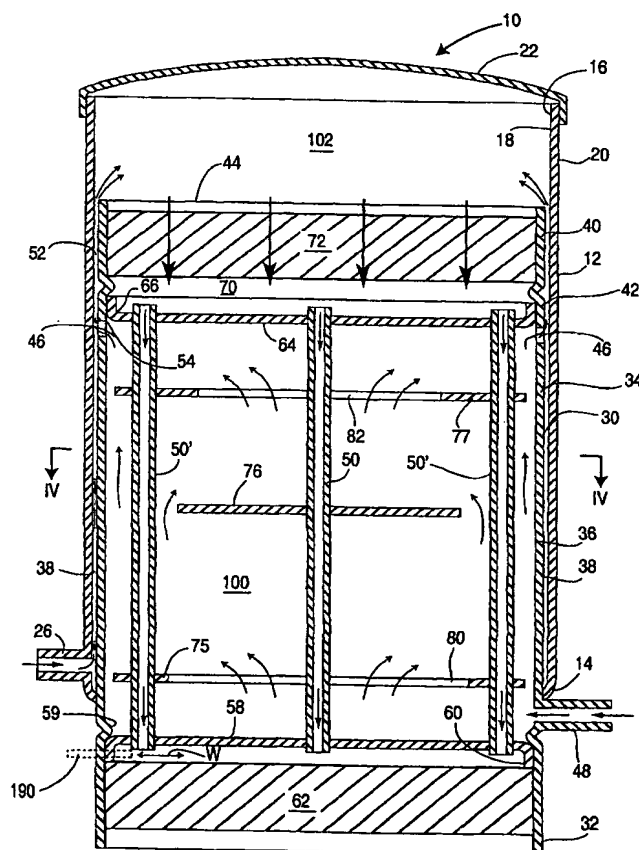
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(54) Title: FUEL CONVERSION REACTOR



(57) Abstract: A conversion reactor (10) including an outer shell (12) having first (14) and second (16) ends and an inner surface (16) a primary inner shell (30) extending into the outer shell (12), the primary inner shell (30) defining a heat exchanging chamber (100) and having primary and secondary (34) ends, and a secondary inner shell (40) having a first end (42) located adjacent the secondary end (34) of the primary inner shell (30). One or more outlet apertures (46) are formed between the two inner shells (30, 40) for passage of the gaseous fluid out of the heat exchanging chamber (100). There are also a plurality of heat exchange tubes (50) extending through the heat exchanging chamber (100) between first (58) and second (64) tube sheets and connected to same. The first tube sheet (58) is mounted in the primary inner shell (30) while the second tube sheet (64) is connected to the secondary inner shell (40). The adjacent ends (42, 34) of the inner shells (40, 30) form a disconnected joint and the secondary inner shell is free to move relative to the primary inner shell upon thermal expansion of the tubes (50).

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